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Author(s): Lunn, Maureen Elizabeth

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TA-55 Plutonium Facility Fact Sheet



National Security

At the Los Alamos National Laboratory (LANL), virtually all plutonium operations occur within the Plutonium Facility at Technical Area 55 (TA-55). TA-55 is the nation's most modern plutonium science and manufacturing facility, and is the only fully operational, full capability plutonium facility in the nation. TA-55 supports a wide range of national security programs that involve:

- stockpile stewardship
- plutonium processing
- nuclear materials stabilization
- materials disposition
- nuclear forensics
- nuclear counter-terrorism
- nuclear energy

Operations at TA-55 maintain a critical skill base of plutonium expertise across a broad suite of technical capabilities. These capabilities form a center of excellence for actinide science and technology, including world-class manufacturing for solving significant national security challenges.

The TA-55 Plutonium Facility

The Plutonium Facility at TA-55, also referred to as PF-4, began operations in 1978. The 236,192 square-foot PF-4 building was constructed to withstand wind, tornado, and seismic loading. In addition to its significant role in stockpile stewardship, the plutonium facility also supports national interests in plutonium-238 heat source fabrication, surveillance, production, dismantlement, and

materials management. Among other things, these efforts support NASA deep space missions. Home to the United States' sole plutonium pit production capability, PF-4 also supports LANL's fundamental scientific research and development to progress the understanding of physical, mechanical, and chemical properties of plutonium. The plutonium facility was deemed the Nation's Plutonium Center of Excellence by the National Nuclear Security Administration in 2009.

Capabilities

In support of national security missions, the key capabilities at PF-4 include:

- basic and applied research in plutonium and actinide chemistry
- nuclear materials separation, processing, and recovery
- plutonium metallurgy, preparation, casting, fabrication, and recovery
- machining and metallurgy laboratories
- destructive and nondestructive analysis laboratories

Additionally, PF-4 can safely and securely ship, receive, handle, and store nuclear materials, as well as manage wastes and residues. The facility supports LANL plutonium sustainment pit manufacturing and surveillance programs. Scientists in these programs perform plutonium metal preparation and recovery operations. Foundry, machining, welding, and assembly operations also are required for pit manufacturing, as well as a complete suite of nondestructive analyses to ensure product acceptability. Plutonium experiments at TA-55 support the nation's stockpile assessment, without the need to conduct actual nuclear tests.

